

**Remarks**

Claims 1-13, 15-17, and 20-85 are pending in the application. Claims 20, 21, 58, and 59 have been amended. The specification has been amended to include the claim for domestic priority under 35 USC 365(c) and 35 USC 120. Reconsideration of the application, as amended, is requested. No new matter has been added by virtue of this amendment.

**Priority**

The examiner states that the priority benefit claim was not entered because the required reference was not timely filed within the period set forth in 37 CFR 1.78(a)(2) or (a)(5).

Applicant is making inquiry with the PTO petitions office and PCT office and will handle the priority issue in a separate communication before the end of the statutory time period. Applicant requests that prosecution continue to move forward while this issue is being addressed.

**Claim Objections**

Applicant has amended claims 20 and 21 to fix the problem identified by the Examiner.

**Claim Rejections--35 U.S.C. § 112, first paragraph**

The Examiner rejects claim 58 under 35 U.S.C. § 112, first paragraph as containing "subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention." The Examiner further states that "the original disclosure does not provide support for "said second electronically controlled mechanism is capable of stopping and starting flow of gas external to said valve." Based upon the original disclosure, it appears that valves 112 and 113 control the flow through (i.e. internally to) themselves, not externally."

Applicant would respectfully ask the Examiner to consider that claim 58 has been amended to specify a "device," as illustrated in FIG. 1, showing in-line modulating valve 113. As described in the specification, valve 112 is an in-line gas safety valve which feeds this in-line modulating valve 113. As also shown in FIG. 1 and described in the specification on page 10, line 22:

[0043] In continuous-flame-modulation mode of operation the

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microcontroller 101 first sends a signal to the power-driving portion 107 of the controller, driving the safety valve 112 "on" to permit the gas entering the system 122 to reach the in-line modulating valve(s) 113, then the microcontroller 101 sends a pulse-width-modulation signal to the power-driving portion 108 of the controller 111 driving the modulating valve 113, to proportionally modulate the valve opening size to the desired gas flow level, as selected by the user and, thus, to permit the gas to reach the burner.

[0044] Simmer mode of operation is defined here as being the mode of operation used for the lowest portion of the total span of BTU output levels. In simmer mode of operation, the microcontroller 101 first sends a signal to the power-driving portion 107 of the controller, driving the safety valve 112 "on", to permit the gas entering the system 122 to reach the in-line modulating valve(s) 113. Then, the microcontroller 101 sends a predetermined pulse-width-modulation signal to the power-driving portion 108 of the controller 111 driving the modulating valve 113, to proportionally modulate the valve opening size to a predetermined level of gas flow, and, thus, to permit the gas to reach the burner. In simmer mode of operation, the pulse-width-modulation (PWM) output level is set to provide a predetermined medium-low height level of flame that can safely be maintained without self-extinguishing, can safely be ignited by the ceramic hot-surface igniter, and can easily be sensed by the flame detector, for any particular burner orifice size. In that particular mode of operation the pulse-width-modulation output, which drives the modulating valve associated with the burner working in simmer mode, is continuously being sequenced "on" and "off" by the microcontroller 101. A time-based sequencer, ruled by appropriate software program and 60 Hz detection module 127, is activated, toggling the PWM output driving the modulating valve, and thus turning the flame "on" and "off" in a timely fashion. During the "off" portion of the sequencing, while no PWM signal is provided to the modulating valve, the valve reverts to its "off" position, sealing the opening and thus preventing the gas from reaching the gas burner under simmer mode of operation. During the "on" time portion of the sequencing, the PWM output is set to the medium-low level of BTU output, providing the safest low level of flame that can be ignited, maintained, and sensed by the temperature sensor. The "on" and "off" periods are produced to correspond to a desired simmer level as selected by the user.

Thus, the specification provides both mechanisms described in claim 58 to control flow to the burner, which is external to the device. In particular, the specification describes how the "second electronically controlled mechanism is capable of stopping and starting flow of gas external to said device." Therefore the rejection of claim 58, as

amended, under 35 U.S.C. § 112, first paragraph, has been traversed.

#### **Claim Rejections--35 U.S.C. § 112, second paragraph**

The Examiner rejects claim 58 under 35 U.S.C. § 112, second paragraph as being indefinite. As amended, inclusion of "a device" in claim 58 fixes the problem identified by the Examiner. Therefore the rejection of claim 58, as amended, under 35 U.S.C. § 112, second paragraph, has been traversed.

#### **Response to Arguments**

The other amendments to claim 58 address the prior art rejection to Damrath discussed in the Examiner's "response to arguments" section. The Examiner states that "having different dimensions meets the claim limitation of the flow control mechanisms being of a different type. The claims does not specify that the mechanisms are somehow different." The amendment replaces the phrase, "of a different type" to provide that the two mechanisms differ by "other than a dimension." Thus, the rejection of claim 58, as amended, as anticipated by or obvious. Applicant would respectfully ask the Examiner to enter this amendment because it places the claim in form for allowance.

#### **Claim Rejections--35 U.S.C. § 103**

The Examiner rejects claim 59 under 35 U.S.C. § 103(a) as being unpatentable over Frasnetti in view of Meslif. However, both Frasnetti and Meslif involve on-off modulation, not continuous gas flow as provided in claim 59, as amended. Continuous fluid flow was already provided in allowed claim 64, and thus addition of this limit to claim 59 should not require additional consideration or search. Thus, the rejection of claim 59 and claim 60 which is dependent thereon under 35 U.S.C. § 103(a) has been traversed.

The prior art made of record and not relied upon has been reviewed and is not believed to be more relevant than that relied upon.

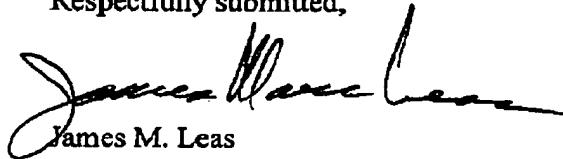
#### **Entry of the Present Amendment**

Applicant respectfully asks the Examiner to consider that the present amendments put the claims in form for allowance and overcome all rejections. Therefore applicant requests entry of the present amendments. If all amendments cannot be entered Applicant

requests entry of those that can be entered.

It is believed that the claims are in condition for allowance. Therefore, applicant respectfully requests favorable reconsideration. If there are any questions please call applicant's attorney at 802 864-1575.

Respectfully submitted,



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